

IN THE CLAIMS

The pending claims are as follows:

1. (Previously Presented) A data representation apparatus for representing data by means of an audio signal, said data representation apparatus comprising:

an audio processing unit for delivering the audio signal  
5 with a characteristic dependent upon a positionless data signal having at least a first value and a second value; and

a mapping unit for mapping the first value of the positionless data signal to a first position in three-dimensional space, and the second value of the positionless data signal to a  
10 second position in three-dimensional space,

wherein the audio processing unit changes the characteristic of the audio signal, resulting in the audio signal appearing, to a user listening to the audio signal, to originate from the first position when the positionless data signal has the first value, and from the  
15 second position when the positionless data signal has the second value.

2. (Previously Presented) The data representation apparatus as claimed in claim 1, wherein the audio processing unit comprises a filter for applying a head related transfer functions to an input audio signal to obtain the output audio signal appearing to  
5 originate from the first position and the second position.

3. (Previously Presented) The data representation apparatus as claimed in claim 1, wherein said data representation apparatus further comprises a data signal distributor for delivering the positionless data signal, derivable from a measurement from a measurement device, to the audio processing unit.

4. (Previously Presented) The data representation apparatus as claimed in claim 1, wherein the mapping unit maps a collection of nominal values of the positionless data signal to predetermined regions of three-dimensional space.

5. (Previously Presented) The data representation apparatus as claimed in claim 1, wherein the mapping unit maps a collection of numerical values of the positionless data signal to positions on a curvilinear locus in three-dimensional space.

6. (Previously Presented) The data representation apparatus as claimed in claim 1, wherein said data representation apparatus further comprises specification means for specifying a preferred mapping for the mapping unit.

7. (Previously Presented) The data representation apparatus as claimed in claim 1, wherein said data representation apparatus further comprises selection means for enabling presentation of a first set of data signal values by a first type of the audio signal

5 and a second set of data signal values by a second type of the audio signal.

8. (Previously Presented) A system for representing data by means of an audio signal, said system comprising:

an audio source for supplying an input audio signal;

a source of a positionless data signal having at least a

5 first value and a second value;

a sound production device; and

a data representation apparatus for representing data by means of the audio signal,

wherein the data representation apparatus comprises:

10 an audio processing unit for providing the audio signal to the sound production device with a characteristic dependent on the value of the positionless data signal; and

a mapping unit for mapping the first value of the positionless data signal to a first position in three-dimensional space, and the second value of the positionless data signal to a  
15 second position in three-dimensional space,

wherein the audio processing unit changes the characteristic of the audio signal, resulting in the audio signal appearing, to a user listening to the audio signal, to originate from the first position  
20 when the positionless data signal has the first value, and from the second position when the positionless data signal has the second value.

9. (Previously Presented) A method of representing data by means of an audio signal, said method comprising the steps of:

processing and delivering the audio signal with a characteristic dependent on a positionless data signal having at least a first value and a second value; and

mapping the first value of the positionless data signal to a first position in three-dimensional space, and the second value of the positionless data signal to a second position in three-dimensional space,

wherein the processing and delivering step includes changing the characteristic of the audio signal, resulting in the audio signal appearing, to a user listening to the audio signal, to originate from the first position when the positionless data signal has the first value, and from the second position when the positionless data signal has the second value.

10. (Previously Presented) A computer-readable medium having stored thereon a computer program for execution by a processor, enabling the processor to execute the method of claim 9.

11. (Cancelled).